

WHAT IS CLAIMED IS:

1. A power output apparatus that outputs power to a drive shaft, said power output apparatus comprising:

5 an internal combustion engine;

 a drive shaft motor that is capable of inputting and outputting power to and from said drive shaft;

 a three-shaft-type power input output mechanism connecting with an output shaft of said internal
10 combustion engine, said drive shaft, and a rotating shaft, where settings of power input and output to and from any two shafts among said three shafts automatically specify a setting of power input and output to and from a residual shaft among said three shafts;

15 a rotating shaft motor that is capable of inputting and outputting power to and from said rotating shaft;

 a secondary battery that transmits electric power to and from said drive shaft motor and said rotating shaft motor;

20 a lubricating oil feed pump that is linked to said output shaft of said internal combustion engine via a damper and is driven by power of said output shaft of said internal combustion engine to feed a supply of lubricating

oil to at least a portion of mechanical part of said power output apparatus; and

a controller that, when a predetermined condition is fulfilled in an operation stop state of said internal combustion engine, controls actuation of said rotating shaft motor to drive said lubricating oil feed pump with the power output to said output shaft of said internal combustion engine via said three-shaft-type power input output mechanism,

wherein said rotating shaft motor, said drive shaft motor, and said lubricating oil feed pump are arranged in series.

2. A power output apparatus in accordance with claim 1, wherein said controller adopts an ON condition of a starter switch for starting said power output apparatus, as the predetermined condition of the control.

3. A power output apparatus in accordance with claim 2, wherein said controller adopts a condition that an elapsed time since a stop of operation of said power output apparatus reaches at least a preset time period, as the predetermined condition of the control.

4. A power output apparatus in accordance with claim
2, said power output apparatus further comprising:

a temperature sensor that measures temperature of
5 the lubricating oil,

wherein said controller adopts a condition that the
temperature of the lubricating oil measured by said
temperature sensor is not less than a preset first
lubricating oil temperature in an operation stop state of
10 said power output apparatus immediately before an ON
operation of the starter switch, as the predetermined
condition of the control.

5. A power output apparatus in accordance with claim
15 2, said power output apparatus further comprising:

a temperature sensor that measures temperature of
the lubricating oil,

wherein said controller adopts a condition that the
temperature of the lubricating oil measured by said
20 temperature sensor is not greater than a preset second
lubricating oil temperature at an ON time of the starter
switch, as the predetermined condition of the control.

6. A power output apparatus in accordance with claim 2, said power output apparatus further comprising:

a temperature sensor that measures temperature of said drive shaft motor,

5 wherein said controller adopts a condition that the temperature of said drive shaft motor measured by said temperature sensor is not less than a preset first motor temperature in an operation stop state of said power output apparatus immediately before an ON operation of the
10 starter switch, as the predetermined condition of the control.

7. A power output apparatus in accordance with claim 2, said power output apparatus further comprising:

15 a temperature sensor that measures temperature of said drive shaft motor,

wherein said controller adopts a condition that the temperature of said drive shaft motor measured by said temperature sensor is not greater than a preset second
20 motor temperature at an ON time of the starter switch, as the predetermined condition of the control.

8. A power output apparatus in accordance with claim

2, said power output apparatus further comprising:

a temperature sensor that measures temperature of said rotating shaft motor,

wherein said controller adopts a condition that the
5 temperature of said rotating shaft motor measured by said temperature sensor is not less than a preset third motor temperature in an operation stop state of said power output apparatus immediately before an ON operation of the starter switch, as the predetermined condition of the
10 control.

9. A power output apparatus in accordance with claim 2, said power output apparatus further comprising:

a temperature sensor that measures temperature of
15 said rotating shaft motor,

wherein said controller adopts a condition that the temperature of said rotating shaft motor measured by said temperature sensor is not greater than a preset fourth motor temperature at an ON time of the starter switch, as
20 the predetermined condition of the control.

10. A power output apparatus in accordance with claim 2, said power output apparatus further comprising:

a temperature sensor that measures temperature of
said internal combustion engine,

wherein said controller adopts a condition that the
temperature of said internal combustion engine measured
5 by said temperature sensor is not greater than a preset
combustion engine temperature at an ON time of the starter
switch, as the predetermined condition of the control.

11. A power output apparatus in accordance with claim
10 2, wherein said controller adopts a condition that makes
said drive shaft motor output power to said drive shaft,
as the predetermined condition of the control.

12. A power output apparatus in accordance with claim
15 1, wherein said controller adopts a condition that said
drive shaft motor is outputting power to said drive shaft,
as the predetermined condition of the control.

13. A power output apparatus in accordance with claim
20 12, said power output apparatus further comprising:

a temperature sensor that measures temperature of
the lubricating oil,

wherein said controller adopts a condition that the

temperature of the lubricating oil measured by said temperature sensor is not less than a preset third lubricating temperature, as the predetermined condition of the control.

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14. A power output apparatus in accordance with claim 12, said power output apparatus further comprising:

a temperature sensor that measures temperature of said drive shaft motor,

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wherein said controller adopts a condition that the temperature of said drive shaft motor measured by said temperature sensor is not less than a preset fifth motor temperature, as the predetermined condition of the control.

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15. A power output apparatus in accordance with claim 12, said power output apparatus further comprising:

a temperature sensor that measures temperature of said rotating shaft motor,

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wherein said controller adopts a condition that the temperature of said rotating shaft motor measured by said temperature sensor is not less than a preset sixth motor temperature, as the predetermined condition of the

control.

16. A power output apparatus in accordance with claim 12, said power output apparatus further comprising:

5 a speed sensor that measures a revolving speed of said drive shaft,

wherein said controller adopts a condition that the revolving speed of said drive shaft measured by said speed sensor is not less than a preset first revolving speed,
10 as the predetermined condition of the control.

17. A power output apparatus in accordance with claim 12, said power output apparatus further comprising:

a speed sensor that measures a revolving speed of
15 said rotating shaft,

wherein said controller adopts a condition that the revolving speed of said rotating shaft measured by said speed sensor is not less than a preset second revolving speed, as the predetermined condition of the control.

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18. A power output apparatus in accordance with claim 1, wherein said controller controls actuation of said rotating shaft motor to drive said lubricating oil feed

pump for a predetermined time period, when the predetermined condition is fulfilled.

19. A power output apparatus in accordance with claim
5 1, wherein said controller controls actuation of said rotating shaft motor to rotate said output shaft of said internal combustion engine at a predetermined revolving speed.

10 20. A power output apparatus in accordance with claim 19, wherein the predetermined revolving speed is approximate to an idling engine speed.

21. A power output apparatus in accordance with claim
15 1, wherein said lubricating oil feed pump feeds the supply of lubricating oil to said three-shaft-type power input output mechanism.

22. A hybrid vehicle having a drive shaft that is
20 mechanically connected with drive wheels, said hybrid vehicle comprising:

an internal combustion engine;

a drive shaft motor that is capable of inputting and

outputting power to and from said drive shaft;

a three-shaft-type power input output mechanism connecting with an output shaft of said internal combustion engine, said drive shaft, and a rotating shaft,
5 where settings of power input and output to and from any two shafts among said three shafts automatically specify a setting of power input and output to and from a residual shaft among said three shafts;

a rotating shaft motor that is capable of inputting
10 and outputting power to and from said rotating shaft;

a secondary battery that transmits electric power to and from said drive shaft motor and said rotating shaft motor;

a lubricating oil feed pump that is linked to said
15 output shaft of said internal combustion engine via a damper and is driven by power of said output shaft of said internal combustion engine to feed a supply of lubricating oil to at least a portion of mechanical part of said power output apparatus; and

20 a controller that, when a predetermined condition is fulfilled in an operation stop state of said internal combustion engine, controls actuation of said rotating shaft motor to drive said lubricating oil feed pump with

the power output to said output shaft of said internal combustion engine via said three-shaft-type power input output mechanism,

wherein said rotating shaft motor, said drive shaft
5 motor, and said lubricating oil feed pump are arranged in series.